Appendix 5 – Environmental Impact Questions

Environmental Assessment Statement (EAS or Responses "IT Decision" Questions)

INTRODUCTION

The "IT" decision, Save Ourselves, Inc. v. Louisiana Environmental Control Commission, 452 So.2d 1152 (La. 1984), involved an application by a company (the IT Corporation) for a permit to construct and operate a new hazardous waste disposal facility in a place where no other disposal facility had previously existed. In the context of a proposed new facility where none had been located previously, the Court found there was a need for an examination of whether or not adverse environmental impacts of a facility had been minimized, such as an examination of alternate projects, alternate sites, or mitigative measures that would offer more protection for the environment than the proposed project without unduly curtailing non-environmental benefits. However, when these factors are considered for a facility that is an existing facility, then the inquiry must of necessity change focus. Any environmental impacts which may have resulted from a facility at this location would likely be in existence. The focus of the rationale of the "IT" decision must therefore take into account the impact of the effective continuation of this disposal facility as contrasted to the impact of developing a new disposal facility at a new location where there has not been a disposal facility. There is a lesser impact on the environment when an existing secure facility is maintained at its present location and/or expanded than when a new facility is developed at a new location where there is no existing facility. With the foregoing qualifications, Woodside Landfill and Recycling Center (WLRC) provides the following response in the format suggested by the Department. It should be noted that information that addresses the questions below is also included throughout the entire permit application and, additionally, is contained in previous permit applications, permit documents and submittals by and on behalf of WLRC, including such documents relative to its solid waste permit. All of the foregoing are incorporated herein by reference.

I. Have the potential and real adverse environmental effects of the proposed facility been avoided to the maximum extent possible? (This question requires the permittee to identify adverse environmental effects, both potential and real.)

A. What are the potential environmental impacts of the permittee's proposed facility?

1. What wastes will be handled?

a. Classes of chemicals
b. Quantities (hazardous and non hazardous)
c. Physical and chemical characteristics
d. Hazardous waste classification (listed, characteristic, etc.)

The facility accepts solid wastes that are non-hazardous under LAC 33.V.105. The wastes are not listed as hazardous and do not have characteristics of hazardous wastes.

Annual receipts of solid waste are anticipated to be approximately 750,000 tons during the permit term and are estimated to increase by approximately 1.5% per year.

All material that is landfilled contains no free liquids as determined by the paint filter test. Any waste material containing free liquids will be stabilized on-site by the addition of non-hazardous drying agents such as kiln dust or fly ash.

2. How will they be handled?

a. Treatment
b. Storage
c. Disposal

The majority of the wastes received at the facility will be directly landfilled immediately. However, any wastes containing free liquids will be stabilized using commercially available non-hazardous drying agents. In addition, some industrial non-hazardous solid wastes may be treated biologically using aeration to assist in the degradation of organic constituents.

3. **Sources of waste**
   a. **On-site generation (type and percentage of total handled)**
   b. **Off-site generation (type and percentage of total handled)**

On-site generation of solid waste is expected to be less than one percent of the total waste handled. It will be limited to accumulated trash from offices and residual wastes from cleaning and maintenance operations. Used oil and other maintenance fluids will be collected and recycled or disposed off site by properly licensed handlers.

The degradation of wastes within the landfill generates leachate. The leachate and any stormwater that comes in contact with waste materials are collected and segregated from non-contacted waters.

Additionally, some solid wastes degrade after landfilling and this degradation generates landfill gas. As discussed below, a gas collection and control system is operated to control air emissions.

Off-site generation of waste will be from municipal, commercial, and industrial sources. The expected percentages of waste are as follows: On Site, < 1%; Residential/Commercial, 50%; and Industrial, 50%.

4. **Where will the wastes be shipped if not handled at this site?**

Site-generated leachate and contaminated stormwater will be pumped to the City of Walker's publicly- owned wastewater treatment plant. The waters will be treated by the City of Walker and discharged in accordance with its LPDES permit.

Site-generated used oil and other maintenance fluids will be shipped to licensed recycling or disposal facilities. All other site-generated solid wastes will be disposed of in the landfill.

5. **What wastes will remain on-site permanently?**

The residential, commercial, industrial and on-site solid wastes will be placed in lined landfill cells. After each cell reaches its design elevation, it will be capped in accordance with the approved landfill closure plan.

B. By which of the following potential pathways could releases of hazardous materials from the proposed facility endanger local residents or other living organisms?

1. **Air**
2. **Water**
3. **Soil**
4. **Food**

The facility will only accept solid waste and has a program to prevent the disposal of hazardous waste, i.e., a comprehensive Quality Control/Quality Assurance Program. However, elements included in the facility design of this landfill would minimize any possible pathways of any releases.

While the degradation of some solid waste disposed of at the WLRC results in the generation of landfill gas that contains a small non-methane organic fraction (~0.05), the use of daily cover and the operation of a gas collection and control system minimizes the potential impact of this pathway.

If contaminated stormwater is not contained, contaminants could enter surface waters containing living organisms and used for fishing and recreation. However, the site levees and drainage system have been sized to contain all run-off from a 25 year/24 hour storm. Furthermore, in the unlikely event of a release, site personnel are equipped and trained to quickly contain any release that may occur outside of a containment area (e.g., an overturned truck) to prevent any impacts to water or soil. If any water is impacted, it will be collected and managed according to Louisiana Pollution Discharge Elimination System requirements. Soils will be excavated and disposed in accordance with all applicable requirements.

If a failure did occur in the landfill's lining system and the generated leachate was not properly collected, the potential exists for the contaminated water to penetrate subsurface confining layers and enter the underlying groundwater zones. As discussed later, the landfill has a composite lining system and leachate is quickly collected. The shallow groundwater zones beneath the site are monitored by the facility's groundwater monitoring network to detect a release at the earliest moments. In the event of a release, immediate action would be taken to ensure groundwater quality is monitored and appropriate response taken. In addition, shallow groundwater beneath the site is not used for potable consumption. Thus, local residents will not be endangered by facility operations.

The facility's designed protection systems and rapid response to any potential incidents will ensure that all pathways that may endanger local residents or other living organisms, including air, water, soil, and food, are eliminated.

C. What is the likelihood or risk potential of such releases?

Prior to the placement of waste within a cell or holding area, berms are constructed for run-on/run-off control. If a potential hurricane or significant storm event is within 24 hours of reaching the facility, all wastes are covered to prevent contamination of any stormwater that could exit the containment areas. Thus, the likelihood of a release is very low.

Each landfill cell will have a composite lining system consisting of a 60-mil HDPE flexible membrane and 3 feet of low permeability recompacted clay ($1x10^{-7}$ cm/s). In addition, an extensive leachate collection system prevents the accumulation of generated leachates. The drainage system is comprised of a 1-foot sand layer underlain by a gravel drains and 6-inch schedule 80 PVC perforated collection pipe. The leachate is pumped and treated off site. The composite lining and collection system substantially reduces the likelihood of a release to underlying groundwater zones.

D. What are the real adverse environmental impacts of the permittee's proposed facility?

1. **Short term effects**
    a. **Land area taken out of system**
2. **Long term effects**

WLRC is within a few hundred feet of the old Livingston Parish dump. The location of this property makes it unlikely that this property would be used for other purposes and does not present an adverse effect. This land, both for the short term and the long term,

would not be put to a better use because of the proximity of the existing disposal area and the prior open dump. No additional adverse effect is sustained as a result of the continuation of operations on the site.

Other short-term effects are the potential for air emissions and contaminated run-off. Long term effects are limited to the potential for groundwater infiltration. The following steps will be taken to avoid any potential or real adverse effects on the environment due to the presence of the facility.

1. The development of the landfill in high quality wetland areas is avoided to the maximum extent possible.

2. A fence is present around the active facility to deter unauthorized entrance to the site.

3. The perimeter levee is present around the active landfill, which will be extended as the landfill cells are developed to prevent storm water entry into the active area or a release of untreated water from the active area.

4. The deposited waste will be covered daily to prevent odors, harborage of rodents, insect disease vectors or other events from becoming a problem.

5. The active area of the landfill will be minimized by applying interim and final covers over the landfill as soon as areas reach final elevations. The interim and final covers will be graded and vegetated to minimize erosion.

6. WML has demonstrated expertise, competence and experience in the operation of modern sanitary landfills thereby eliminating any potential effect that may result from inexperienced or untrained operators.

7. The floor and sideslope areas of landfill cells will be lined with a minimum three-foot thick layer of low permeability recompacted clay (1 x 10^{-7} cm/sec or less), overlain by a 60-mil high density polyethylene (HDPE) liner. This composite liner will prevent the migration of leachate from the landfill.

8. A leachate collection system will be maintained to remove leachate from the landfill and maintain the leachate head not more than one foot above the lowest bottom elevation of the leachate collection lines.

9. Generated leachate will be treated on site in an oxidation pond constructed with a composite liner. The treated water will then be pumped to the City of Walker POTW or discharged in accordance with the facility's LPDES permit.

10. A groundwater monitoring system has been installed and monitored semi-annually to detect any release from the landfill at the earliest possible time. This system will be modified to include additional monitoring wells for the expansion area.

11. Complete records of all material and vehicles entering the landfill will be maintained for security purposes.

12. No scavenging or burning of waste, no illegal dumping, and no hazardous wastes or prohibited wastes will be allowed at the landfill.

13. The landfill has been designed to ensure structural stability of the mass and long-term performance of the composite liner and leachate collection system, as demonstrated by the engineering design calculations presented in this permit modification.

14. Only nonhazardous waste will be accepted by the facility. Waste inspection procedures will be in place to ensure that hazardous waste is not accepted.

15. A gas collection and control system is installed and in operation. This system minimizes potential odors and controls air emissions. Additional gas collection wells will be installed in new areas as they are filled in accordance with New Source Performance Standards (NSPS) requirements. Collected gases are routed to a control device, a Landfill Gas Flare.

In addition, a substantial 800-foot buffer zone is provided along the southern property line, between the landfill and the closest residential area. This buffer zone is heavily forested and will provide effective visual screening.

The following on-site security systems have been installed: a six-foot chain link fence along the entire facility boundary; 24-hour manning of the main gate by security personnel; manning and/or locking of the remaining three entries to site; security lighting of the gates and perimeter; an alarm system with alarm activation panels at eight locations; telephone and radio systems for communication with on-site and off-site emergency personnel and employees; protection of all tanks, pipelines, valves and other handling equipment from transportation activities; lighted personnel barriers placed around hazardous locations; and posting of warning signs at the main gate and at intervals of less than 200 feet on the perimeter fence. Further details can be found in Section B of Part II of WLRC's solid waste permit renewal application.

Qualified operating personnel assigned to operate the facility participate in training plans, quality assurance/quality control programs and safety programs. Each new employee is trained in the general orientation and operation of the facility. Furthermore, a training program related to the specific duties of each job function is specifically tailored to that position. No employee is permitted to work unsupervised until the employee has successfully completed all elements of the training program. This introductory training will be completed within six months of the new employee's entry into a specific assignment. In addition, every employee will participate in training updates to maintain proficiency, learn new techniques and procedures, and reinforce safety and compliance consciousness. Furthermore, the training program is designed to familiarize personnel with emergency procedures, emergency equipment, and emergency systems including the use of communication and alarm systems; procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment; the operation of automatic waste feed cutoff systems; response to groundwater contamination incidents, shut-down of operations, and response to fires, explosion and other emergency events. Further details of the training program are detailed in Section G of Part II of WLRC's Solid Waste Permit renewal application.

II. **Does a cost benefit analysis of the environmental impact costs balanced against the social and economic benefits of the proposed facility demonstrate that the latter outweighs the former?**
(This question requires the permittee to perform a cost-benefit analysis, or at least a quantitative indication of the economic benefits and a qualitative description of the

negative impacts expected from the permittee's operation. The latter should come from the answer to question I.)

A. How was it determined that this facility was needed?
1. **Local or regional survey**
2. **On-site or off-site needs**
3. **Regional solid waste management benefit**
4. **Generic survey of solid waste needs (compatibility with master plan)**

The current landfill was constructed in 1989 by Livingston Parish to replace numerous small "dumps" that were scattered throughout the Parish. These "dumps" were unlined, were constructed without environmental controls, were improperly covered, and were not protected from surface water run-on/run-off. It was determined that a facility was required that could provide a regional solid waste benefit. The factors which resulted in a determination by the agency that this facility was needed remain essentially the same today.

The waste receipts of the existing operation serve as a generic survey of the solid waste needs for the area. Between the years 1995 through 2000, the annual waste receipts have ranged from just under 400,000 tons per year to over 750,000 tons per year. Waste receipts are projected to increase by approximately 1.5% per year during the permit term. This data supports the need for the continuation of the currently permitted facility.

Currently there is no integrated solid waste management plan for Louisiana or for the area in and around Livingston Parish. However, according to the "Final Report, Louisiana's Statewide Integrated Solid Waste Management Plan (SWMP)," in 1993, solid waste from eight parishes was disposed of at the existing permitted landfill at Woodside Landfill and Recycling Center (P-0080R1). Therefore, Woodside Landfill and Recycling Center would certainly be included in any regional solid waste management plan. This facility has been planned with the full knowledge and approval of the local governing authority, the Livingston Parish Council (formerly the Livingston Parish Police Jury).

B. What will be the positive economic effects on the local community?
1. **How many permanent jobs will be created?**
2. **What is the expected annual payroll?**
3. **What is the expected economic multiplier from item B2?**
4. **What is the expected tax base and who will receive benefits?**

The landfill brings much-needed taxes and other revenues to the parish. Woodside Landfill and Recycling Center is the Livingston Parish Council's largest single source of general fund revenues, making up about one fourth of all general funds received.

In 2002, Woodside Landfill and Recycling Center provided almost $1 million in royalty fees to the Parish government and over $1 million in 2003 and 2004 due to the royalty rate increase from 5.0% to 6.5%. Woodside Landfill and Recycling Center has paid more than $11.6 million in royalty fees to the Parish since the landfill first opened through 2002. Without Woodside Landfill and Recycling Center, the Parish would require an increase in property taxes to replace the revenue generated by the landfill.

Woodside Landfill and Recycling Center, Waste Management, and companies dependent on the landfill, provide jobs for approximately 500 people in Livingston Parish, 408 employees on their own payrolls and 66 contract workers. About 23 of those jobs are at the landfill. There are 142 jobs at Waste Management of Baton Rouge for their employees in Livingston Parish. These jobs involve waste collection and transportation in Livingston Parish and are dependent on the existence of the landfill. The company and

subcontractors' annual payrolls in Livingston Parish total over $12.8 million. The vast majority of workers are residents of Livingston Parish.

The economic benefits of continuing the landfill's proposed royalty payments to the Parish and continued employment for numerous area residents.

The public interest will be protected by the continued employment of permanent and part-time local residents now working at the currently operated landfill, by the impact of employee salaries on the local economy, and by the payment of royalties to the Parish government. The Livingston Parish Council, through a public-private contractual agreement with WML, will receive royalties from the facility's operations for inclusion in the Parish's operating budget.

C. What will be the potential negative economic effects on the local community?

1. **What are the possible effects on property values?**
2. **Will public costs rise for:**
    a. **Police protection**
    b. **Fire protection**
    c. **Medical facilities**
    d. **Schools**
    e. **Roads (also see below)**

3. **Does the prospective site have the potential for precluding economic development of the area by business or industries because of risk associated with establishing such operations adjacent to the proposed facility?**

As stated herein, the landfill is located near a former Livingston Parish Dump. Thus, local property values will not be impacted by continued operation of the landfill. If a new site were developed in lieu of expanding into the adjacent area, property values may unnecessarily be reduced. Therefore, the continued operation of the landfill prevents property values from being reduced in other areas of the service region.

WLRC does not foresee any increase in public costs for police, fire protection, medical facilities, or emergency response equipment and facilities. These costs are decreased because the facility will be self-sufficient in this area and because of its ability to assist others. The facility has on-site emergency response capabilities. The facility will implement a contingency plan that sets forth procedures to be filed in reporting emergencies; coordinate notification and response actions; and respond to specific emergencies, including fires, explosions, spills and material releases. Additionally, each treatment, storage or disposal process at the facility has built-in control features, containment structures, and equipment to facilitate emergency response actions. The contingency plan further provides for communication and coordination with off-site emergency personnel including the Police Department, Fire Department, Louisiana State Police, and the Department of Environmental Quality; site evacuation plan; local community evacuation and notification; and post emergency procedures. Further details on the on-site emergency response capabilities can be found in Section H of Part II of WLRC's solid waste permit renewal.

The continued operation of the landfill will not preclude economic development of the area by business or industry. Approximately over 70% of the surrounding areas is undeveloped forested land. An estimated 10-13% of the area within a three-mile radius of the site is residential. Thus, businesses likely to locate facilities in the adjacent area are ones that primarily cater to other businesses. The presence of a solid waste landfill

will not preclude other business operations. On the contrary, if a potential business generates a solid waste byproduct, it would be beneficial for it to locate near the landfill.

D. Was transportation a factor in choosing the proposed site?
1. **What mode(s) of transportation will be used for the site?**
    a. **Truck**
    b. **Rail**
    c. **Barge**
    d. **Other**
2. **What geographical area will it serve?**
3. **By how much will local road traffic volume increase?**
    a. **Can local roads handle the traffic volume expected?**
    b. **Can local roads handle the weight of trucks?**
4. **What are the long-term expectation of the proposed site?**
    a. **Longevity of the facility**
    b. **Who owns the facility**
    c. **Are the owners financially backed by others?**
    d. **When is closure anticipated?**
    e. **Who is responsible for the site after closure?**
    f. **What assurances will there be that the site will be closed in accordance with the plan?**
    g. **What financial assurances will be established to demonstrate the ability to handle problems after closure?**
    h. **Who certifies that the site is properly closed?**
    i. **How are people protected from unwittingly buying land after closure?**
        1. **Is the closed facility recorded in the deed?**
        2. **What future uses are possible?**

The site is located near a major US highway and interstate. This was a factor in siting the current operation since trucking is the primary mode of transportation used at the site. Since the site was originally permitted, improvements in access to the interstate have been completed, thus enhancing access to the site. Based on correspondence from the Louisiana Department of Transportation and Development (DOTD), traffic associated with current operations at the WLRC is not having an adverse impact on area roadways. Furthermore, the geographic service area of the facility will remain unchanged with the expansion development.

Since annual waste receipts are not projected to increase significantly, road traffic is not expected to increase. Thus, the quantity and weight of trucks should not create any additional impact on area roads.

The expected maximum life of the landfill under current, annual levels of waste receipts is approximately until the year 2056, the estimated date for final closure. However, as each area reaches the final design elevation, the closure cover will be installed. As each area is closed, a qualified independent Professional Engineer registered in Louisiana will certify closure in accordance with the permit documents and approved closure plan.

The facility is owned by Waste Management of Louisiana, L.L.C., a wholly owned subsidiary of Waste Management Holdings One, Inc. WML is responsible for closure of the site in accordance with permit documents and the applicable regulations in effect at the time of closure. WML has issued the necessary financial instruments to ensure that the facility will be properly closed and that the required post-closure maintenance and monitoring will be conducted.

A record in the Parish mortgage and conveyance records will be filed describing the specific location of the facility and specifying that the property was used for the disposal of solid waste. The document shall identify the name of the person with knowledge of the contents of the facility, as well as providing the quantities in place. A true copy of the document, filed and certified by the parish clerk of court, will be sent to the Office of Environmental Compliance.

III. Are there alternative projects which would offer more protection to the environment than the proposed facility without unduly curtailing nonenvironmental benefits? (This question requires the permittee to demonstrate having considered alternate technologies.)

A. Why was this technology chosen (e.g., incineration over landfilling?)
   1. Are other technologies available?
   2. Describe the engineering design and operating techniques used to compensate for any site deficiencies.

The utilization of alternative methods of disposal has been studied. Although alternate technologies are available, no other technology is economically viable while providing the maximum environmental benefits. Furthermore, all available alternatives generate a residual that must be land-disposed. In many cases, the resulting residual can have a high concentration of metals that can create greater risks than direct landfilling.

Incineration, resource recovery, and composting alternatives are described herein. Ocean dumping is not considered an alternative due to transportation and access problems as well as a significant negative environmental impact.

Incineration

Development of this type of project requires considerable capital and a long period of time to implement, due to design and regulatory requirements. If an existing oil or coal-fired furnace is used, major retrofitting would be performed to allow the efficient burning of refuse. Achieving a thorough mixing and even flow of material into the combustion chamber is difficult, and slagging is often a problem, causing excessive down time. Very few units have been designed to handle refuse alone. Noncompliance with stringent air pollution standards has caused many of these projects to fail. Economic viability is also a problem, and tipping fees for these operations are typically substantially higher than for landfill disposal. In addition, the need for disposal is not eliminated, since the incinerator ash must be properly disposed. Municipal solid waste incinerators require very elaborate scrubbing systems. Volatile metals, plastics, and household cleaners can causeincinerators to emit toxic compounds and have the potential to create products of incomplete combustion (PICs). Accordingly, waste constituents can become more mobile with an incinerator than through landfilling. In many communities, the use of incineration has been received very negatively and is very difficult to locate.

Resource Recovery

Resource recovery is not considered to be feasible in this area at this time. The excessive cost for the operation of a waste to energy facility can not be supported in the service area. If, however, the Baton Rouge Metropolitan Area should provide the correct economic and industrial environment to make resource recovery a feasible alternative at some time in the future, this landfill would be available for the necessary disposal of the ash generated by a Resource Recovery Plant. However, the issues surrounding resource recovery are similar to incineration and public perception is very difficult to overcome.

Composting

There is a very limited market for compost, and far more compost is produced than could be used. Refuse composition is also a problem, since materials such as rubber, plastics, and metals do not readily decompose. These materials make up a significant percentage of the solid waste stream being disposed at Woodside Landfill and Recycling Center, and would require landfilling even if composting were performed.

Landfilling

Continued development of the landfill as currently permitted is the only option that has been proven to be reliable, environmentally safe, and economically feasible for meeting the long-term disposal needs of the area. The currently permitted development of a state-of-the-art landfill expansion, will provide the most cost-effective disposal option for the citizens of Livingston Parish, while benefitting the Parish economically as well. The Woodside Landfill and Recycling Center fits into an overall integrated waste management system that offers a wide variety of treatment, recovery, incineration and disposal options, if such alternatives become viable in the future.

The site was selected with a minimum potential for deficiencies. Additional environmental protection is provided by the construction of low permeability liner and leachate collection systems in cells.

B. Is the proposed technology an improvement over that presently available?

The proposed technology is currently considered "state-of-the-art" for solid waste landfill design. Engineering design improvements allow for a facility footprint that maximizes volume per square foot and minimizes the impacted area. Other facilities in Louisiana require significantly greater areas to accommodate similar volumes.

C. Describe the reliability of technology chosen.
1. **Past experiences.**
2. **Environmental Impacts**

The use of composite lining systems that include 60-mil HDPE flexible membrane liners in conjunction with recompacted clay has proven highly effective and reliable in controlling potential environmental impacts. Historical groundwater monitoring data for

WLRC indicates that no impact has occurred to date from operation at the facility. In addition, leachate head within a cell is required to be maintained at no more than one foot. Thus, there is little hydraulic gradient to encourage flow out of a cell.

D. Describe the sequence of technology used from arrival of wastes to the end process at the facility (flow chart).
1. **Analysis of waste**
2. **Unloading**
3. **Storage**
4. **Treatment**
5. **Monitoring**
6. **Closure**
7. **Post-closure**
8. **Disposal**
9. **Any residuals requiring further handling**

Record keeping is routinely and properly maintained to effectively manage the operation and to prepare the necessary reports in accordance with the administrative requirements

of the State. Upon arrival at the site, all vehicles, commercial or private, with incoming wastes are instructed by signage to stop at the facility gatehouse. The gatehouse is equipped with a central control and record keeping system for tabulating information on the wastes. Utilizing scales, the system records the quantity (by wet-weight tonnage); sources (whether the wastes were generated in-state or out-of-state and, if it is industrial solid waste, where it was generated); and types of incoming wastes (i.e., industrial, commercial, residential). Industrial waste will be compared to the pre-acceptance information and checked for conformity. In the event of scale malfunction, the amount of waste is estimated and recorded in cubic yards, and the scale is repaired as soon as practicable. Quantities delivered to the site via private residential or commercial vehicles (e.g., pick-up trucks, etc.) are recorded in cubic yards and converted to tonnage according to the appropriate conversion factor for different types of waste streams (e.g. roofing shingles, tree limbs, etc.).

The waste delivery and recording system, in conjunction with the facility security system, allows only limited and controlled access to the disposal area. The controlled and documented entry along with the random inspection of incoming waste loads will reasonably ensure exclusion of prohibited wastes. Facility personnel receive training in regulatory compliance, which provides a review of applicable state regulations with emphasis on the facility solid waste permit. Certified facility operators receive additional training on regulatory compliance during scheduled meetings conducted by the Board of Certification and Training for Solid Waste Disposal System Operators and the LDEQ Solid Waste Division.

Pursuant to LAC 33:VII.521.H.2.a, random inspections are performed for the purpose of hazardous waste and PCB waste exclusion for residential and commercial waste. The random inspections are conducted near or adjacent to the work face within the certified disposal area over a clearly marked and properly bermed area which has received at least one (1) foot of interim cover prior to placement in the working face of the landfill. In addition, industrial waste loads are also randomly inspected to exclude hazardous and PCB wastes. Furthermore, systematic visual inspection and fingerprinting, as appropriate, are conducted on all profiled industrial waste to verify that the waste has the physical appearance indicated on the previously approved profile documents and conforms to the type of waste accepted. Facility personnel will make the required entry in the site's record keeping system indicating the required information which may include generator, waste name, vehicle number, time, date, volume and location of deposited waste in landfill by referencing the site grid coordinate system.

Collection vehicles are not allowed to proceed into the landfill until authorized. The truck is logged in and directed to the unloading area. For industrial wastes, the receiving ticket is completed noting the location where the wastes are deposited. During unloading, the waste is visually monitored by the operator. If any potentially hazardous waste is detected, the vehicle is not allowed to leave the site until the disposition of such waste is resolved.

Small non-commercial vehicles are typically allowed to dispose of waste in containers near the entrance gate to avoid traveling into the tipping area. This area is identified as the Citizen's Access Area". These containers, when filled, are hauled to the tipping area for disposal. The location of the "Citizen's Access Area" may be changed as needed to accommodate facility operations.

Vehicles entering the facility are weighed or measured prior to entering the disposal area. Upon completion of acceptance procedures described in the Quality Assurance and Quality Control Program for Waste Acceptance, the vehicles are directed to either the active disposal area or the non-commercial small-vehicle container area. Haulers not

familiar with the facility are provided with verbal instructions and their loads are closely checked for the specific acceptance requirements. Properly placed signs instruct drivers as to speed limitations, site precautions, movement of traffic and directions to the working face of the active landfill cell to facilitate uniform traffic flow.

Industrial process solid wastes that require improvements in their physical characteristics for ease in handling are mixed with a solidification agent or other non-hazardous wastes (e.g. fly ash, kiln dust or similar products). The handling, mixing and details of disposal schemes are evaluated by means of physical testing.

Solid wastes difficult to compact may require mixing with sand, silt, clay or other material. The proper mix is determined by physical testing in the laboratory and/or by field demonstration.

Trash delivered to the site in loose form and containing items such as appliances or bulky containers may be segregated and recycled or reused. Open burning of refuse will not be practiced at WLRC as a waste handling method. Additionally, no solid waste shall be deposited in standing water and all waste will be deposited in the smallest practical area, spread and compacted in layers approximately two feet thick, or, if baled, will be stacked and covered daily.

The waste acceptance and testing procedures for receiving domestic sewage sludge, industrial solid waste, incinerator ash or non hazardous petroleum contaminated media and debris generated by underground storage tanks corrective action have additional waste acceptance requirements under Louisiana Administrative Code 33:VII. Solid Waste Regulations, including Sections 521, 709, and 711. The program specifically provides preacceptance procedures to determine the acceptability of a waste pursuant to facility permit conditions, operational capabilities, and state and federal regulations. The Quality Assurance and Quality Control Plan to the WLRC solid waste permit addresses these requirements.

Filling within a unit (cell) proceeds in approximately 20-foot high by 200-foot wide sections. Filling generally begins on the high end and proceeds toward the opposite end of the cell, which is lower in elevation. The general development of each cell is to reach approximate final grades within a cell prior to filling within the next cell. This may be highly dependent on site conditions and weather conditions at the time these elevations are reached. The unloading area is maintained to facilitate side-by-side unloading, when practical, without undue delay due to equipment operations. As the permitted height is attained, interim cover and interim compacted cover is placed over the appropriate sections of the disposal area.

A major site development objective is to manage the refuse filling activities such that the finished grades are achieved on a progressive basis, then final-covered and vegetated as soon as practical. In this way, closure takes place throughout the life of the site and no area which has been brought up to final grade will remain without the required final cover for more than a few months. The largest area of the landfill unit requiring final cover for the currently permitted or modified landfill footprint is approximately ten acres. Final cover installation shall be initiated and completed for this ten-acre area within 30 days to 90 days after final grades are reached, following final receipt of solid wastes in the ten-acre area of the unit, unless an extension is granted by the administrative authority due to inclement weather.

Within a few months after final cover is applied, the area will be seeded. Areas which are covered, closed, and are growing vegetation will be maintained in an aesthetically pleasing manner. Periodically, areas which have received final cover and have been

vegetated will be inspected for spongy spots, erosion, vegetative stress, etc. These areas will be repaired as necessary.

The final cover placed on the landfill will be maintained for 30 years after closure. Maintenance activities will include inspection of the vegetative cover, as needed, and inspections of the cover for evidence of burrowing, erosion, settlement, subsidence, or other events, as specified in LAC 33:VII.711.F.3.a. If any problems with the cover are noted, they will be subsequently repaired to maintain the integrity of the cover.

The gas collection and control system and gas-monitoring system will be maintained and operated during the post-closure monitoring period until gas generation reduces to minimal levels, as required by NSPS 40 CFR 60, subpart WWW and Maximum Achievable Control Technology (MACT), 40 CFR 63, subpart AAAA.

Additionally, the groundwater monitoring system will be maintained and monitored during the 30 year post-closure period. Any solid waste generated during the closure operation will be disposed in the remaining disposal area. Upon final capping of all on-site disposal areas, residuals will be stored in containers and transported off site for disposal.

E. Will this facility replace an outmoded/worse polluting one?

The WLRC has been in existence since in 1987, and replaced the outmoded polluting Livingston Parish Dump.

F. What consumer products are generating the waste to be disposed? Are there alternative products that would entail less hazardous waste generation?

A wide range of consumer products are generating the household waste disposed in the landfill. Future development of these products is resulting in formulations that are more benign than those in previous versions.

IV. Are there alternative sites which would offer more protection to the environment than the proposed facility site without unduly curtailing nonenvironmental benefits?

A. Why was this site chosen?

1. **Specific advantages of the site;**
2. **Were other sites considered and rejected?**
3. **Is the location of the site irrevocable; i.e., would denial of permit based on site preclude the project?**

Former disposal areas operated by the Parish were required to close or upgrade after promulgation of RCRA Subtitle D regulations. According to the *Solid Waste Management Plan,* dated March 1994, developed by the Louisiana Department of Environmental Quality (LDEQ), the number of landfills operating in Louisiana decreased from 850 open dumps in 1981 to only 30 permitted landfills in 1993. The facilities nearest to WLRC that are currently in operation and permitted to accept municipal and industrial solid waste are Colonial Landfill in Ascension Parish and North Landfill in East Baton Rouge Parish. These facilities do not offer more protection to the environment than the WLRC facility, and the use of these facilities to replace WLRC would curtail non-environmental benefits (reasonable disposal cost) because there would be less competition in the solid waste market. This would likely result in an increased cost of disposal to the general public and industry.

In addition, use of the alternate sites would result in increased transportation costs and risks to the public. Travel to these sites would require the use of heavily traveled

roadways and/or the use of substandard two lane roads. The additional impacts of using alternate sites far outweigh the risks of an existing site.

During the siting of the original site and subsequent modifications, the location was selected and confirmed due to the proximity of the US highway and interstate, availability of affordable land, presence of an adjacent "dump," and central location for the project service area. Other sites that have been considered did not offer the same level of commercial viability and environmental protection. The proposed continuation of the landfill is most protective of the environment because the attributes of the property (geology, hydrology, etc.) are known to be protective of the environment.

Further, the renewal of this site means the existing site infrastructure, including roads, buildings, pipelines and treatment facilities will continue to be utilized. An alternative site necessarily would duplicate the infrastructure elsewhere. Impacts to the adjacent areas have been realized already through the development of the landfill, and any additional impacts will be minor.

B. Is the chosen site in or near environmentally sensitive areas?

1. **Wetlands**
2. **Estuaries**
3. **Critical habitat**
4. **Historic or culturally significant areas**
    a. **Indian mounds**
    b. **Antebellum houses**
    c. **Tourist attractions or facilities (e.g., *bed and breakfast inns*)**
    d. **Campgrounds or parks**

The US Army Corp of Engineers (COE) has inspected the site on several occasions. The COE visited the originally-permitted site on November 1, 1984 to determine if wetlands were present. The COE concluded that a wooded wetland area was present in the northeastern portion of the property. The remaining area of the site was determined to be free of wetlands. A letter from the COE, dated November 27, 1984, indicated that a Department of the Army Section 404 permit would have to be obtained prior to placement of fill or dredged material in the area designated as a wetland.

During construction of the original facility prior to October 9, 1993, a perimeter levee was placed between the wetland area and the original landfill area to exclude and protect the wetlands from landfill operations. Therefore, no loss of wetlands occurred during construction and operation of the landfill and a Section 404 Dredge and Fill Permit was not required. The remaining units of the original landfill constructed and operated after October 9, 1993 are within the perimeter levee and in an area that does not contain wetlands, according to the 1984 determination made by the COE.

A wetlands demonstration for additional disposal area has been made. The COE visited the site on March 13, April 21, May 6 and May 29, 1997 to investigate the possibility that wetlands were present in the area. Following these visits, the COE concluded that 118 acres of wetlands were present on the adjacent property. The remaining area of the site was determined to be a non-wetland area. A letter from the COE, dated September 26, 1997, indicated that a Department of the Army Section 404 permit would have to be obtained prior to placement of fill or dredged material in the areas designated as wetlands.

Since the wetlands are dispersed throughout the adjacent property and are not limited to localized areas, on-site mitigation is difficult. Therefore, the Section 404 application submitted to the COE included off-site compensatory mitigation. The quality of the

wetlands was determined to be variable in nature, ranging from poor quality in most areas to high quality in a very limited area. Thus, a 1:1 ratio was proposed in the Section 404 application submitted to the COE. The Section 404 Permit was received on December 17, 2004.

No practicable alternative to the facility was found to ensure that the cost-effective and environmentally sound disposal of solid waste would be available on a long-term basis for the residents of Livingston Parish and surrounding areas.

As demonstrated by the correspondence dated March 13, 1985, October 28, 1998, and December 20, 2004, the Louisiana Department of Culture, Recreation and Tourism stated that a review of the respective state files indicated there are no known archaeological or historical sites within 1,000 feet of the landfill site area.

Correspondence dated March 31, 1999 and December 14, 2004, received from the Louisiana Department of Wildlife and Fisheries, indicated that no rare, threatened, or endangered species or critical habitats are present within the specified 1,000-foot radius of the facility. In addition, it stated that no state or federal parks, designated wildlife areas, wildlife refuges, or scenic streams are located within the subject area. Additionally, there are no estuaries, tourist attractions, campgrounds, or parks in the vicinity of the facility.

C. What is the zoning and existing land use of the prospective site and nearby area?

1. **Is the site located near existing heavy industrial, chemical process or refinery operations?**
2. **Is there a precedent for chemical contamination near the site or is the soil and water pristine?**
3. **Is the area particularly noted for its esthetic beauty?**

Existing land use within a three-mile radius of WLRC has been estimated based on available maps, published information, an area visual reconnaissance and through general knowledge of Livingston Parish and the surrounding area. Based on this information, the land use for the area within a three-mile radius of the facility, by approximate percentages, is as follows:

undeveloped (forested land) - 74%
residential - 10%
agricultural - 10%
other commercial - 3%
health care facilities and schools - 1%
industrial/manufacturing - 1%
recreational - 1%

Note: Of the approximate 10% land use representing residential areas, the majority of these residences are located within the Walker city limits. The category of land use representing undeveloped land (74%) can be better described as forested areas. A determination was not made as to whether the forested areas are managed and utilized by private landowners or by commercial timber companies. As stated in correspondence from the Livingston Parish Council (formerly the Livingston Parish Police Jury), no existing comprehensive land use or zoning plan established by local regulations or ordinances preclude the location and operation of WLRC.

There are no heavy industrial operations in the area of the facility. However, the currently closed Livingston Parish "Dump," not designed nor operated in accordance with current environmental protection standards, is adjacent to the facility.

The area is typical unmanaged Louisiana forestland and is not noted for its aesthetic beauty.

D. Is the site flood prone?
- **1. Is the site in a flood plain?**
  - **a. How current are the maps used to make flood plain determinations?**
  - **b. What is the elevation of the site?**
  - **c. Is diking required or desired to provide flood protection?**
    - **1. What is the design height of the dike?**
    - **2. How is the dike protected from erosion?**
    - **3. What frequency and design storm was used?**
    - **4. Is the access to the site over or through dikes?**
- **2. Is the site hurricane vulnerable?**
  - **a. Is the site in an area subject to storm surge?**
  - **b. What are the design storm specifications?**
  - **c. Should damage from wave action be considered?**
  - **d. For what levels of wind speed is the facility designed?**

WLRC is not located in a designated floodway and, therefore, does not restrict the flow of the 100-year flood. Approximately 25 acres of the adjacent property, consisting of surface water management features, are located in a designated flood zone; however, no development is proposed for this site that would result in a reduction of the storage capacity of the flood zone. The 100-year flood elevation for the site, averages approximately 37.5 feet over the area of the flood zone encroachment. The ground elevation in this area averages approximately 36.7 feet NGVD, as determined through survey and topographic maps. Therefore, the resultant average water depth in the area during a 100-year flood event would be approximately 0.8 feet. The disposal area is/will be protected, as a precautionary measure, from flooding by a perimeter levee system constructed to an elevation of 42 to 48 feet NGVD, providing a minimum two-foot freeboard against a 100-year flood.

The design of the oxidation pond(s) design presented provides treatment and storage capabilities for surface water run-off from the solid waste units which have not received final cover. The oxidation pond(s) are constructed with perimeter levees, preventing surface water run-off from the units to the adjoining areas during a 24-hour/25-year storm event. Additionally, the design of the oxidation pond(s) includes adequate freeboard to prevent over-topping by wave action that would occur during such an event. The anticipated wind speed is in excess of 80 mph.

As previously discussed, approximately 25 acres of the adjacent property are located in the 100-year flood plain, as indicated on FEMA's most recent Flood Insurance Rate Map (FIRM). This area is located in the northwest corner of the adjacent property, outside the disposal area and the area where the surface impoundment (detention pond) is to be located. Therefore, flooding will not affect the integrity of the facility or result in the washout of solid waste.

The perimeter ditch system at WLRC is designed to accommodate the discharge from the design standard of 12 inches of rainfall (based on a 25 year/24 hour storm) following closure of the landfill, which is when the peak discharge will occur. The surface water drainage system has been sized for this event. In addition, the perimeter levee system

surrounding the oxidation pond(s) provides adequate freeboard that prevents run-on from entering the oxidation pond(s).

E. Is groundwater protected?

1. **Are aquifers or recharge area underlying the site used for drinking water?**
2. **What is the relationship of the site to the water table?**
3. **What wells exist in the area?**
4. **What is the flow rate and direction of the groundwater flow?**
5. **What is the groundwater quality in the underlying aquifers?**
6. **Is there a hydraulic connection between the aquifers?**

Published reports (a bibliography follows Section 521.E.1.b of the WLRC solid waste renewal application) show that the Florida Parishes, including Livingston Parish, are underlain by a 2,500 feet thick sequence of sandy and clayey beds which are referred to as the Southern Hills Regional Aquifer System. As many as 13 distinct aquifers are identified in this system (Buono, pg. 12). These aquifers are generally designated by the depth at which they are encountered; i.e. the 400-foot, 600-foot, 800-foot, etc. However, most have not been thoroughly investigated or mapped. Similarly, detailed records on water levels and the directions of groundwater flow are not reported.

The phreatic water surface at the site is typically encountered between elevations 25 to 20 feet NGVD. This water is considered to be trapped in a "perched" condition, which is expected to fluctuate with season and area precipitation. The site is underlain by the A, B, and C sand/silt zones encountered between elevations 34 and -10 feet NGVD. These zones are not considered to be part of the Southern Hills Regional aquifer, although the B sand/silt zone could potentially serve as a non-potable low-yield water resource. The A, B and C sand/silt zones are not recognized as domestic use aquifers.

The shallowest domestic aquifer in this area would be the "Shallow Pleistocene" aquifer (Buono). This aquifer is located at the base of the Prairie Terrace deposits and is approximately 100 to 400 feet thick. The aquifer is encountered at a depth of approximately 100 to 200 feet bgs. Groundwater flow in this unit is typically to the south. STEI estimated (Appendix 9 to the WLRC solid waste permit renewal application) the potentiometric surface in this unit to be at an approximate elevation of 25 feet NGVD (based on observations made within a few miles of the site).

The general direction of groundwater flow in most of these aquifers is southerly as indicated by potentiometric maps contained in published reports. For some of the more significant aquifers, for example the "1500-foot" and "2000-foot" sands, the maps show that the direction of flow has been influenced by heavy withdrawals, particularly in the Baton Rouge area. In these aquifers, flow is locally to the west towards Baton Rouge. This influence may extend to the Woodside site area.

Potentiometric maps have not been prepared for all of the aquifer units comprising the Southern Hills System. This is the case for shallow sands (at depths of 200 feet or less) which are found throughout the Florida Parishes. For such sands, local drainage features, such as rivers, may also have an influence on the direction of groundwater flow.

The solid waste disposal areas and surface impoundments or oxidation ponds are designed to include a composite liner system (3-feet of recompacted low permeability clay overlain by 60-mil HDPE liner) to provide for protection of underlying aquifers from facility operations.

Published literature presents partial potentiometric maps of major aquifers underlying the site. Emphasis is placed upon more industrially developed and populated areas such as

East Baton Rouge and Tangipahoa Parishes. For Livingston Parish, potentiometric information on the major aquifers is either unavailable or very general. Thus, for the lesser aquifers and other minor water bearing sands, there is no potentiometric information available. For purposes of environmental assessment and design, investigations of water levels in sands underlying the site were undertaken. The initial investigation was performed by STEI during the fall of 1984. STEI prepared potentiometric maps based on water level readings in open boreholes and eight piezometers. Based on STEI's findings and recommendations, nine monitor wells were installed at the site in April and June, 1987.

Golder, in a subsequent investigation, further explored the nature of water bearing deposits within the upper 50 feet bgs. Golder's findings are presented in a report titled "Hydrogeological Investigation, Woodside Landfill, Livingston Parish, Louisiana". Five piezometers were installed by Golder during this investigation.

Golder prepared more recent potentiometric maps based on water levels in the monitoring wells and in their piezometers (the STEI piezometers were plugged and abandoned prior to Golder's investigation). Golder interpreted the primary hydrogeologic units at the site as consisting of three units, the Upper, Middle, and Lower Sand Channels. Two potentiometric maps were prepared for the site that were based on differing screened depths in the piezometers. Water level readings used to prepare these two maps were obtained on January 22 and 23, 1988. Exhibit 3.3 of the WLRC solid waste permit renewal application shows water levels and the potentiometric surface in wells and piezometers having shallow screened intervals and Exhibit 3.4 of the WLRC solid waste permit renewal application represents the deeper screened intervals. Both maps indicate groundwater flow to the west and southwest. The basic difference in the potentiometric surfaces is that water levels in the shallow screened interval are about 2 to 3 feet above those in the deeper screened interval.

From mid-1986 to late-1993, potentiometric water elevations have been obtained from the nine existing groundwater monitoring wells that comprise the facility's groundwater monitoring network. Potentiometric contour maps constructed from the data indicates that groundwater flows toward the west and southwest.

Potentiometric maps were prepared for the B and C sand/silt zones encountered during Earth Tech's investigation of the additional disposal area and for the original site. The findings of this investigation are presented in the Earth Tech report presented in Appendix 1 to the WLRC solid waste permit renewal application. Potentiometric maps are presented for these zones, based on water level measurements obtained during four seasonal events. As indicated on these maps, groundwater flow within these permeable zones was not found to vary significantly between events.

F. Does prospective site pose potential health risks as defined by proximity to:

1. **Prime agricultural area (crop or pasture land)**
2. **Residential area**
3. **Schools or day care centers**
4. **Hospitals or prisons**
5. **Public buildings or entertainment facilities**
6. **Food storage area**
7. **Existing community health problems that may be aggravated by operation of additional hazardous waste disposal capacity**

As discussed in IV. C., approximately three-quarters of the area surrounding the site is forested land and only a small percentage is considered residential. Only 1% of the area

within a 3-mile radius consists of health care facilities and schools and only 8% is agricultural, none considered prime. Public buildings of any type are limited.

The facility will not accept hazardous waste and has strict procedures to prevent their inadvertent receipt. Thus, existing community health problems, if any, would not be aggravated by the operation of the facility.

The current operation has been ongoing for over 17 years and there have been no documented incidents that the facility poses adverse health risks.

G. Is air quality protected?

1. **Is the site within an ozone or non-attainment area?**
2. **What contaminants are likely to be generated at the site?**
3. **What protection is afforded from each contaminant generated by the site?**
4. **What is the potential for unregulated emissions?**
5. **What plans are implemented to provide for odor control?**
6. **Who will be affected by emissions?**
    a. **What is the direction of the prevailing winds?**
    Describe the expected frequency of "bad air" conditions.
7. **Describe the control of vapors at various stage of process.**

The operations at a sanitary landfill have a very low potential for creating toxic air emissions. Livingston Parish and four other surrounding parishes are in an ozone non-attainment area. This non-attainment area is primarily a result of the heavy industry located along the Mississippi River corridor.

The decomposition of some non-hazardous solid wastes generates methane and a small fraction of other compounds. In accordance with EPA guidance, it is estimated that landfills that receive municipal and industrial waste have a non-methane fraction of approximately 0.4 %. However, site specific testing at the existing landfill indicates that the non-methane organic fraction is on the order of 0.05%. Although the emissions are minimal, the facility has an extensive gas collection and control system (GCCS) that is installed and in operation. The system consists of a series of gas collection wells networked to a flare. The flare consumes the generated methane and other trace compounds and reduces their emissions. This system will be expanded as the continued landfill development occurs.

Odors (and emissions) will be controlled through the application of daily cover over the working face of the landfill. As areas reach the design elevations, interim and final covers will be installed. Odors (and emissions) are also controlled by the GCCS.

Due to the low potential for air emissions and variable winds, a designated population group that would be affected by potential air emissions from the facility could not be identified. A "bad air" condition caused by site operations is not likely to occur.

As described above, air emissions will be controlled through the use of daily cover and the operation of the gas collection and control system.

Have physical site characteristics been studied; what has been done in terms of a geotechnical investigation?

8. **Site geology**
9. **Hydrology**
10. **Topography**
11. **Soil properties**
12. **Aquifer location**

13. **Subsidence problems**
14. **Climatic conditions**

A comprehensive geotechnical investigation and design that includes site geology, hydrology, topography, soil properties, aquifer locations, and potential subsidence problems has been prepared and certified by a geotechnical engineer registered in Louisiana, as described in Appendix 1 of the WLRC solid waste permit renewal application.

The effect of climatic conditions for the site have also been studied. Protections against flooding, catastrophic events (hurricanes, tornadoes, and fires) have been included in the facility design. Designed features include buffer zones, protection levees, drainage ponds, proper sloping, and reduced working faces. Additional details are included in the referenced Appendix 1.

V. Are there mitigating measures which would offer more protection to the environment than the facility as proposed without unduly curtailing nonenvironmental benefits? (This question requires the permittee to demonstrate having considered the most stringent techniques for reducing or more efficiently handling waste.)

A. Is this facility part of a master plan to provide waste management? Whose plan?

1. **How does it fit into the plan?**
2. **What geographical area is served by the plan?**

As discussed previously, there is no current integrated solid waste management plan for Louisiana or for the area in and around Livingston Parish. However, this facility has been planned with the full knowledge and approval of the local governing authority, the Livingston Parish Council, which entered into a public-private contractual agreement with WML. A stated purpose of the agreement is to provide solid waste facilities for the proper and environmentally sound disposal of solid waste on a long-term basis for Livingston Parish as well as other areas that can be economically served.

B. Does this facility fit into an integrated waste management system? (reduction, recovery, recycling, sales tax, exchange, storage, treatment, disposal).

1. **On-site**
2. **Regional**

Although, the government has not developed a formal integrated waste management system, WLRC is part of an integrated waste management system serving the local and regional communities. As the economic environment continues to improve for waste reduction, recovery and recycling, the need for "state-of-the-art" strategically-located sanitary landfills will continue for the proper disposition of the residuals that do not have economic value. As the local community and the state develop more comprehensive waste management plans, WLRC will continue to serve an integral role by providing economically and environmentally sound disposal and allow the implementation of a formal plan to proceed rapidly.

On site, the facility is capable using construction debris for road building, biologically treating soils, and treating wet wastes. These efforts reduce disposal volumes and minimize environmental impacts.

C. Can waste be disposed in another fashion (way)?

1. **Technology limitations**
2. **Cost factors**

3. **Other reasons**

As detailed above, alternate technologies are discussed in III A. The combination of technology limitations and cost factors limits the use of other disposal methods. Furthermore, all known disposal methods generate a residual that must be landfilled. Thus, the need for the facility would not be precluded with the use of other disposal methods.

D. What quality assurance control will be utilized to protect the environment?

1. **Plans for lab work**
2. **How are out-of-spec wastes handled**
3. **What happens to rejected wastes**
4. **Treatment stabilization**
5. **Segregation of noncompatible wastes**
6. **Handling of containerized wastes**

A detailed Quality Assurance and Quality Control (QA/QC) Plan for Waste Acceptance is included as Exhibit 4 to the WLRC solid waste permit renewal application. The QA/QC plan specifically provides for pre-acceptance procedures to determine the acceptability of a waste pursuant to facility permit conditions, operational capabilities and state and federal regulations. The program sets forth procedures to monitor incoming loads and verify that the incoming waste corresponds with pre-acceptance waste characteristics and provisions in the facility permit.

Pre-acceptance procedures determine the acceptability of a waste or waste stream to ensure that it does not contain hazardous waste or free liquids. The generator must provide pertinent physical and chemical data as well as other information detailed in above referenced Exhibit 4. Based on the pre-acceptance information, the stream will either be accepted or rejected for disposal.

Once approved for disposal, the generator can schedule disposal. Upon arrival at the site, the shipment will be weighed and the driver's documentation will be reviewed. In addition, facility personnel will systematically inspect industrial waste loads to ensure that the waste material has the physical characteristics indicated on the previously approved pre-acceptance information. "Fingerprinting" methods will also be utilized on selected industrial waste loads to confirm the pre-acceptance information. Methods may include but are not limited to color, texture, pH, paint filter testing, etc. Any load that fails "fingerprinting" will be rejected and returned to the generator. The generator will also be notified of the waste discrepancy. In addition, random inspections of residential, commercial and industrial waste loads will also occur in the area of the working face to ensure that potentially hazardous material and PCB waste is not being received.

If it is later determined that a non-conforming waste was placed in the landfill, the load or loads will be retrieved from the cell. Since the location of all industrial wastes are noted in the operating record, the procedures in the QA/QC Plan - "Waste Rejection and Removal Plan" will be implemented.

WLRC has the ability to stabilize materials that fail the paint-filter test. Exhibit 8 of the WLRC solid waste permit renewal application details the QA/QC Program for Solidification. The wet material will be stabilized using portable steel stabilization bins located within the lined disposal area. Fly ash, kiln dust, or similar non-hazardous products will be used as solidification agents. Enough agent will be mixed with the waste until the material passes the paint filter test.

Since no hazardous or reactive waste will be accepted, segregation of incompatible wastes is not applicable. Wastes that are containerized will be pre-accepted and inspected in accordance with the procedures in the QA/QC Plan (i.e. no free liquids and no hazardous waste). The location of the containers will be noted in the operating record.

E. Innovative techniques used to control release of waste or waste constituents into the environment.

1. **Surface impoundment**
2. **Land application treatment**
3. **Landfill (burial)**
4. **Incinerator**
5. **Container storage**
6. **Tanks**

All surface impoundments and landfill areas will have a composite lining system consisting of three feet of recompacted clay and a 60-mil HDPE flexible membrane liner. Landfill areas will be covered daily to prevent material from being windblown and to preclude vectors. Waste containing degradable constituents may be treated biologically through the use of land application with enhanced oxygenation.

Containers will be used for assisting residential disposal and minimizing traffic on the working face. The only tankage anticipated is for fuel for landfill equipment and leachate prior to pumping offsite for treatment.